

## Year 9

Timing	Unit Title	Key Question	Knowledge	Assessing understanding
Autumn	<p><b>Changes of State and the Particle Model</b></p> <p><b>Conservation and Dissipation of Energy</b></p> <p><b>Energy Changes in Systems</b></p>	<p><b>How are particles arranged in matter and how do they behave?</b></p> <p><b>How does heat energy transfer?</b></p> <p><b>What is the Specific Heat Capacity of a substance and how do we measure it?</b></p>	<ul style="list-style-type: none"> <li>● Introduction to kinetic theory – particles.</li> <li>● Solids, Liquids and Gases.</li> <li>● Density theory.</li> <li>● How do we measure Density (RP5).</li> </ul> <ul style="list-style-type: none"> <li>● Internal energy, conduction and Insulation.</li> <li>● Insulation experiment - RP2.</li> <li>● Radiation - absorption, emission and reflection.</li> </ul> <ul style="list-style-type: none"> <li>● SHC Theory.</li> <li>● SHC Practical.</li> <li>● Changes of State.</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>● recall the knowledge covered</li> <li>● explain the Physical processes covered.</li> <li>● interpret graphical and experimental data</li> <li>● plan and describe valid experiments</li> <li>● evaluate experimental procedures and results.</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● Description.</li> <li>● Explanation.</li> <li>● Evaluation.</li> <li>● Comparison.</li> <li>● Planning and carrying out investigations.</li> <li>● Manipulating Mathematical Formulae.</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>● home works during the term</li> <li>● test on Solids, Liquids, Gases and Heat Transfer.</li> </ul>

Spring	<p><b>Energy Changes in Systems</b></p> <p><b>Pressure in gases</b></p> <p><b>Further Energy Changes</b></p>	<p><b>What does the pressure of a gas depend on?</b></p> <p><b>How does Energy transfer?</b></p>	<ul style="list-style-type: none"> <li>● Specific Latent heat.</li> <li>● Evaporation.</li>   <li>● Brownian Motion and pressure in gases.</li> <li>● Pressure and Temperature in gases.</li> <li>● Pressure and volume in gases experiment.</li> <li>● Pressure and volume in gases Boyle's law.</li>   <li>● Energy stores and pathways introduction.</li> <li>● Kinetic Energy.</li> <li>● GPE and converting from it to KE and back.</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>● recall the knowledge covered</li> <li>● explain the Physical processes covered.</li> <li>● interpret graphical and experimental data</li> <li>● plan and describe valid experiments</li> <li>● evaluate experimental procedures and results.</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● Description.</li> <li>● Explanation.</li> <li>● Evaluation.</li> <li>● Comparison.</li> <li>● Planning and carrying out investigations.</li> <li>● Manipulating Mathematical Formulae.</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>● home works during the term</li> <li>● test on Specific Heat Capacity, Latent Heat, Evaporation and Pressure.</li> </ul>
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Summer	<b>Further Energy Changes</b>	<b>How does Energy transfer?</b>	<ul style="list-style-type: none"> <li>● Power.</li> <li>● Efficiency.</li>   <li>● Stretching a spring and elastic energy.</li> <li>● Hooke's Law Required Practical.</li> <li>● More about elastic energy.</li> </ul>	<p><b>How understanding is assessed</b></p> <p><b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>● recall the knowledge covered</li> <li>● explain the Physical processes covered</li> <li>● interpret graphical and experimental data</li> <li>● make connections between different areas of understanding.</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● Description.</li> <li>● Explanation.</li> <li>● Evaluation.</li> <li>● Comparison.</li> <li>● Planning and carrying out investigations.</li> <li>● Carrying out statistical tests and applying maths formulae.</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>● Home works during the term</li> <li>● End of Year Exam on all topics studied so far.</li> </ul>
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